# Causal Exclusion and Modal Concepts

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Larry Shapiro and Elliott Sober have argued that a step in Jaegwon Kim's reasoning, in motivating the Problem of Causal Exclusion, involves an impossibility that arises if one adopts a manipulationist account of causation. In this paper I will recount Kim's reasoning behind the Problem of Causal Exclusion. I will then review the impossibility that Shapiro and Sober find within Kim's reasoning. And finally I will present an argument to demonstrate that Kim's reasoning is immune from the critique of Shapiro and Sober by reinterpreting the modality of the mind/body supervenience relation.

The reasoning behind Kim's Problem of Causal Exclusion is supposed to show that nonreductive physicalism cannot adequately account for the reality of mental causation without contradiction. As such, the "Supervenience Argument" may be construed, as Shapiro and Sober construe it, as an argument for the epiphenomenalism of mental properties on a nonreductive physicalist account of the mind/body relation (although Kim himself has used the Supervenience Argument to argue more generally that nonreductive physicalism is an untenable position).

The Supervenience Argument makes use of a supposed contradiction between three key assumptions: the assumption that the physical domain is causally closed, the assumption that mental properties supervene on physical properties, and the assumption that mental properties are causally efficacious in the physical domain. To elaborate, the causal closure of the physical domain demands that each physical property (or event) has a sufficient physical cause that necessitates that property's instantiation. But if one posits that the physical cause is also a physical supervenience base for a supervening mental property, then there is a question of the causal status of the supervening mental property with respect to the physical effect. The presence of a completely sufficient physical cause for a given physical effect seems to preclude the possibility of an additional mental cause (for a number of possible reasons, including the principle of Alexander's Dictum and problems about overdetermination, depending on which version of Kim's argument is being considered). The crux of the argument is that there is no extra causal work to be done regarding the instantiation of the physical effect, by the supervening mental property, which cannot already be sufficiently accounted for by the physical cause alone.

Shapiro and Sober adopt a manipulationist account of causation, based on the work of James Woodward[1], and then use this account of causation to show that a step in Kim's reasoning involves an impossibility. According to the requirements of Woodward's manipulationist account of causation, in order to test for the causal status of some entity, one must manipulate that entity's status ("wiggle it," to put it loosely) while holding fixed all relevant background conditions and while checking for corresponding changes in some supposed effect. Applying this causal test to the status of a supervening mental property, to determine if the mental property has causal powers above and beyond those of its supervenience base, means that one must manipulate the mental property while holding fixed the property's background conditions, including holding fixed the mental property's physical supervenience base itself. This sort of manipulation is prima facie impossible, however, since the supervenience relation is a relation of necessity. A supervenience base necessitates the instantiation of its supervening property, such that holding fixed the supervenience base would preclude the possibility of "wiggling" the mental property in the

[1] Woodward, James. *Making Things Happen: A Theory of Causal Explanation*. (Oxford University Press, USA, 2003).

isolated way required by the manipulationist account of causation:

> "In asking whether [mental property and supposed cause] M1 should be given a *distinct* causal role in the production of [physical effect] P2, Kim is inviting us to consider whether M1 has an effect on P2 *additional* to the effect that [physical cause] P1 has. The obvious method to use in answering this question involves holding P1 fixed while wiggling M1…. One cannot manipulate a macroproperty while holding fixed the microproperties on which it supervenes."[2]

I argue that Shapiro and Sober's critique of Kim is unsuccessful due to the ambiguity of the modal concepts of necessity and possibility and their vague employment both by Kim in his Supervenience Argument and by Shapiro and Sober in their critique of causal exclusionary reasoning in general. I will argue that alternative readings of these concepts will show that Shapiro and Sober have been unsuccessful in making an adequate case against the reasoning underlying the Problem of Causal Exclusion.

Regarding the concept of necessity, the assumption of a supervenience relation between mental properties and their underlying physical supervenience bases invites the question: what type of necessity provides the basis for

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[2] Shapiro, Larry and Elliott Sober. "Epiphenomenalism – The Do's and the Don'ts", in G. Wolters. And P. Machamer (eds.), *Thinking about Causes, From Greek Philosophy to Modern Physics* (Pittsburgh: University of Pittsburgh Press, 2007).

this supervenience relation? Merely to claim that supervenience is a relation of necessity is unhelpfully vague since there are differing sorts of necessity, including but not limited to logical necessity and nomological necessity. I will argue that Shapiro and Sober's argument is dependent upon a strong modal reading of the necessity relation underlying the supervenience of mental properties on physical properties and that their argument fails on any weaker account of this underlying necessity, such as nomological necessity.

Regarding the concept of possibility, there is a question as to what sort of possibility is being utilized when Kim invites his readers to consider a case of a physical supervenience base instantiated without its supervening mental property. But what sort of possibility is Kim minimally committed to in order for his reasoning to go through? Here there seem to be three potential answers: logical possibility, physical (or actual) possibility, and conceptual possibility. This question is not wholly separate from the question above about the nature of the necessity relation underlying the supervenience relation, for it is plausible that the nature of the supervenience

relation between mental properties and physical properties will also determine what sort of possibility makes for the most plausible and charitable interpretation of Kim's Supervenience Argument.

A further, related question about the concept of possibility is about the nature of the impossibility claim in Shapiro and Sober's statement that the relevant type of manipulation is impossible: is this manipulation logically impossible, nomologically impossible, or conceptually impossible? Again, the consideration of the nature of the underlying necessity relation may determine the answer to this question. I will argue, however, that Kim's argument demands a very minimal sort of conceptual possibility that is immune to the worries about impossibility offered within Shapiro and Sober's critique.

I shall begin with a discussion of the nature of the necessity relation underlying the supervenience of mental properties on physical properties. There are two relevant senses of necessity: logical necessity and nomological necessity. In many cases, one of these relations may hold while the other fails to hold. For example, laws of nature are usually held to be logically contingent. In other words, property x may nomologically necessitate property y

according to some law of nature, but this does not mean that the stronger relation of logical necessity holds between x and y. Were the laws of nature sufficiently different (or supposing a different possible world), x would not necessitate y in any sense. As a general principle, then, a relation of nomological necessity between two properties, x and y, does not render the presence of x without y impossible simpliciter, but rather merely impossible in the actual world. In any case, it is certain that nomological necessity between x and y does not render the case of "x without y" impossible in the conceptual or logical senses, but only in the nomological sense.

Applying the above reasoning to the case of supervening mental properties, if the supervenience relation between mental properties and their physical base properties is of a nomological sort, then one could not then claim that the presence of a physical supervenience base without its supervening mental property (or a fixed physical supervenience base with a supervening mental property that is changeable) is impossible either conceptually or logically, but at most that it is

physically impossible (is this all that Shapiro and Sober need?).

One cannot appeal straightforwardly, as Shapiro and Sober do, to the supervenience relation itself to settle the question of the nature of the underlying necessity, and consequently supervenience itself does not settle the question about what sense of impossibility results for the variability of a supervening mental property. Even if one assumes strong (versus weak) supervenience, which posits not just a covariance relation but a dependency relation, to hold between mental properties and physical properties, this would not provide any insight into what sort of dependency grounds the strong supervenience relation. Kim himself is quite clear on this point in several places, for example:

> "There is no harm in using the term 'supervenient dependence' to refer, indifferently or disjunctively, to one or another of the many dependence relationships that can underlie the property covariance involved in instances of supervenience. But it now seems to me a mistake, or at least misleading, to think of supervenience itself as a special and distinctive type of dependence relation, alongside causal dependence, mereological dependence, dependence grounded in semantic connections and others."[3]

[3] Kim, Jaegwon. "Postscripts on Supervenience" in *Supervenience and Mind*, Cambridge University Press, 1993, pp. 167.

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> "[Mind-body] supervenience merely affirms a dependence relation of an unspecified sort and does nothing more to explain the nature of psychophysical covariance. But supervenience itself is not an explanatory relation. It is not a 'deep' metaphysical relation; it is a 'surface' relation that reports a pattern of property covariance, suggesting the presence of an interesting dependency relation that might explain it."[4]

Kim himself is optimistic that the mind-body supervenience relation might ultimately be grounded in a mereological dependence relation. But even mereological dependence seems to me to be determined by contingent natural laws, such that different natural laws would result in a complex mereological structure having different macro-properties. The logical contingency of nomological necessity diffuses the conceptual tension that Shapiro and Sober see in Kim's reasoning. Shapiro and Sober's argument requires that the supervenience relation be spelled out in terms of a stronger logical necessity; but the concept of supervenience is not properly invoked in such a metaphysically weighty matter without further justification.

[4] Ibid. pp. 167.

Given that it is not logically or conceptually impossible for a physical property to be instantiated without its supervening mental property on a supervenience relation that is grounded in nomological necessity, how is it possible to make sense of the sort of manipulation demanded by the manipulationist account of causation? Certainly even given a relation of nomological necessity between mental properties and physical properties, it is impossible in a physical sense, to perform the type of manipulation that Shapiro and Sober suggest. But this does not preclude the possibility that different physical laws may result in quite different supervening properties across different possible worlds. Of course, in keeping with the empiricist commitments of the manipulationist account of causation, the a priori activity of considering possible worlds would not count as “manipulation” in Woodward’s sense.

But if one is not committed to the motivation behind preferring an empirical account of causation, then one need not bar metaphysical speculation about different possible worlds with different nomological laws from the discussion beforehand. Appealing to different possible worlds or different hypothetical scenarios is firmly within the

philosopher's toolbox, so to speak, and it is coherent to say that we can imagine different possible worlds with sufficiently distinct physical laws and then look for patterns of covariance between them that are analogous to what Shapiro, Sober, and Woodward are looking for in the actual world. Of course, this move is only open if one adopts the view that mind-body supervenience is grounded in nomological necessity instead of strict logical necessity, but there are convincing reasons to do so, given the plausibility of the claim that different physical laws would produce different supervening properties.

Is there an adequate response to this objection that a proponent of the manipulationist account of causation could offer? There are two strategies that such a proponent could utilize. The manipulationist could argue that sufficiently distinct possible worlds are irrelevant to the empirical testing for causation in the actual world. Or the manipulationist could argue that a modally strong interpretation of the supervenience relation is to be preferred because of its ability, in conjunction with the manipulationist account of causation, to solve, or rather

undermine, the Problem of Causal Exclusion. I will argue below that each of these strategies will ultimately fail.

The first approach a manipulationist could take is to argue that speculative consideration of other logically possible worlds with sufficiently different natural laws is inherently a violation of the proper way to think about causation on the manipulationist account. Part of the motivation behind the manipulationist account of causation is to prefer an empirical methodology for testing for causation that is harmonious with scientific experimentation without being speculative or "metaphysical" in spirit. It is an obvious point that this preference for the empirical over the speculative approach to causation requires further justification, which James Woodward attempts to do in his defense of the manipulationist account.

However, the fact that the manipulationist account is purported to solve the Problem of Causal Exclusion cannot itself be used as justification for the manipulationist account, for this would be a clear case of circular reasoning: the solution to the Problem of Causal Exclusion would be justified by a new account of causation, which would in turn be justified by the solution to the Problem

of Causal Exclusion. And with competing, prima facie coherent, accounts of causation on the table, such as David Lewis's counterfactual account of causation which overtly utilizes the concept of possible worlds to analyze causation in the actual world, there is a heavy burden on Shapiro and Sober to justify the exclusion of more speculative methodologies from the understanding and explanation of causation.

In conclusion, the critique of Causal Exclusionary reasoning offered by Shapiro and Sober is unsuccessful. The argument fails to take into account the modal strength of the necessity underlying the mind-body supervenience relation. As Kim insists, supervenience is not a type of necessity but may itself be grounded in any of various types of necessity relations. On modally weaker types of necessity, such as nomological necessity, it is not incoherent to consider a case of a physical supervenience base with a missing or with a variable supervening mental property, due to the contingency of nomological natural laws across possible worlds. Shapiro and Sober may be correct that the sort of manipulation required by the manipulationist account of causation to test for the causal efficacy of a supervening mental property, above and beyond

that of its supervenience base, is physically impossible in the actual world. However, my considerations about modality have shown that this impossibility does not obtain the level of strong conceptual or logical impossibility that Shapiro and Sober claim. In fact my considerations have shown the exact opposite; that there is a metaphysical analogue to the empirical manipulationist account of causation that is coherent and that avoids the impossibility Shapiro and Sober have claimed for the Problem of Causal Exclusion and how to test for causation within the confines of its assumptions.